FOSTERING CAMPUS SYSTEMIC CHANGE IN SUPPORT OF PHYSICS STUDENT SUCCESS

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THE STUDENT EXPERIENCE
TEAM-UP FACTORS – AN EXAMPLE OF GOALS TO IMPROVE THE STUDENT EXPERIENCE AND OUTCOMES

- Foster a sense of belonging among African American students
- Help African American students develop a physics identity
- Ensure effective teaching and a strength—based approach to academic support for African American students
- Offset financial burdens and stress of African American students
- Prioritize creating environments, policies, and structures that maximize African American student success
Figure 2
Levels of the System
(Austin, 2011/2014)
Table 1: Key Findings and Recommendations by Theme

<table>
<thead>
<tr>
<th>Belonging</th>
<th>Identity</th>
<th>Academic Support</th>
<th>Personal Support</th>
<th>Leadership and Structures</th>
<th>Change Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty role</td>
<td>Faculty role</td>
<td>Faculty preparation</td>
<td>Financial</td>
<td>Department chairs</td>
<td>Theory of change</td>
</tr>
<tr>
<td>Student role</td>
<td>Co-curriculum</td>
<td>Faculty commitment</td>
<td>Paid work</td>
<td>McNair and similar programs</td>
<td>Alignment with related efforts</td>
</tr>
<tr>
<td>Counterspaces</td>
<td>Faculty diversity</td>
<td>Advising</td>
<td>Mental health</td>
<td>Campus resources</td>
<td>Faculty preparation and training</td>
</tr>
<tr>
<td>Climate</td>
<td>Prosocial behaviors</td>
<td>Curriculum</td>
<td>Intersectional identity</td>
<td>Incentives and rewards</td>
<td>Rewards and incentives</td>
</tr>
<tr>
<td>Harassment response</td>
<td>Career options</td>
<td>Resource guide for students</td>
<td>$50M endowment for financial aid</td>
<td>Professional societies support</td>
<td>Ongoing data collection, assessment, and accountability</td>
</tr>
</tbody>
</table>

How can societies help department leaders influence the levers shown in this table?
Blind monks examining an elephant, an ukiyo-e print by Hanabusa Itchō (1652–1724).
WHAT IS SYSTEMIC CHANGE IN HIGHER EDUCATION?

- Change that affects multiple courses, departments, programs, divisions, colleges (or beyond) and result in changes that affects policies, procedures, norms, cultures, and/or structures (organizational, curricular, fiscal).

- Requires leaders that:
  - understand the system AND its interacting parts
  - know how to pull levers that influence the system
MODEL FOR SYSTEMIC INSTITUTIONAL CHANGE

1. ESTABLISH VISION
   - Align with Institutional Priorities
   - Examine Landscape & Conduct Capacity Analysis

2. Identify & Analyze Challenges & Opportunities

3. CHOOSE STRATEGIES
   - Decision Point
   - Determine Readiness for Action

4. BEGIN IMPLEMENTATION

5. MEASURE RESULTS
   - Disseminate Results & Plan Next Steps

LEADERSHIP → READINESS → ACTION

Elrod and Kezar (2016)
WHAT IS REQUIRED BY CAMPUS CHANGE LEADERS

- Assess organizational strengths and weaknesses
- Ensure distributed leadership
- Evaluate framing and language for change
- Utilize multiple theory-based strategies
- Create and assess a systems approach
- Leverage influence strategies
- Build and support networks
- Create feedback loops

See AAU publications:
- Scaling Change in Higher Education: A Guide for External Stakeholder Groups
- Scaling Improvement in STEM Learning Environments: The Strategic Role of a National Organization
Questions for Each Level of the University:

• Institution-wide
  • E.g., How are measures of teaching excellence included in a meaningful way in annual/merit review, promotion, and tenure processes for all instructors at the institution?

• Schools/Colleges
  • E.g., In what ways do deans use data on student progression/retention/completion to inform discussions with department chairs and instructors to facilitate program improvement?

• Departments
  • E.g., What are the demographics of students in the department? What are the progression, retention, completion rates for students broken out by relevant demographic categories? How do these compare with other departments? What steps are being taken to improve these rates?

• Courses
  • E.g., To what extent does the instructor understand the biases he/she may bring to the classroom, and what steps has the instructor taken to mitigate these to ensure that all students are succeeding?
Faculty leaders are central as champions at the departmental and academic levels.

Chairs, deans, provosts are needed to support policy changes, resource commitments and other infrastructural supports.

Leadership is required at multiple levels and across the institution, including student affairs and other student support offices.

Senior leadership must be on board to connect change efforts to broader institutional priorities, advocate for and champion success.

Leadership development at all levels is important.
SHARED LEADERSHIP

An approach for working together in new ways to achieve transformational & systemic change

- Greater Number of People
- Leader & Follower interchangeable
- Multiple perspectives and expertise
- Leadership not based on position
- Collaboration across the organization

# MODELS OF SHARED LEADERSHIP

<table>
<thead>
<tr>
<th>Description</th>
<th>Co-Leaders</th>
<th>Teams</th>
<th>Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pairs or small groups of people share leadership</td>
<td>Leadership functions shared among team members</td>
<td>Leadership dispersed across multiple organizational levels or even organizational boundaries</td>
</tr>
<tr>
<td>Structure</td>
<td>Often built into formal structure of top executive role</td>
<td>Flexible configurations that change based on the problem</td>
<td>Flexible configurations that arise during particular projects or times of change</td>
</tr>
<tr>
<td>Roles</td>
<td>Roles of co-leaders are specialized, differentiated, and complementary</td>
<td>Leadership shared vertically and horizontally across teams based on relevant expertise</td>
<td>People across different organizational levels or boundaries assume leadership as problems arise</td>
</tr>
<tr>
<td>Settings</td>
<td>Found in organizations with multiple complex purposes such as healthcare,</td>
<td>Studied in business, organizational or social psychology settings and linked with positive</td>
<td>Studied in public administration, K-12 education, or through a sociological lens</td>
</tr>
<tr>
<td></td>
<td>the arts, and K-12 education</td>
<td>behavioral outcomes</td>
<td></td>
</tr>
</tbody>
</table>
MANY LEADERS, ONE SYSTEM OF LEADERSHIP

= Leader toolbox
**DRAFT MODEL OF SYSTEMIC CHANGE LEADERSHIP**

**Leadership Context**

- **Goals of Change**
  (e.g., science literacy, next generation scientists, Science teacher preparation, professional preparation, research innovation)

- **Locus/Level/Scope of Change**
  (e.g., dept, program, university, partnership)

- **Institutional Type, Environment**
  (e.g., research, PUI, MSI; public/private)

- **Internal & External Factors**
  (e.g., competing forces, opportunities, pressures)

**Leader Moves & Interactions**

- Provost
- Dean
- Chair

**Institutional Levers that Lead to Change**

- Culture
- Mission, Values, Strategic Plans
- Governance Structure
- External partners/initiatives
- Policies, practices, structures
- Communication practices, structures
- Budget models, revenue
- Rewards, incentives, constraints
- Feedback, assessment systems
- Transactional efficiencies, barriers
- Student and employee pools
- Cost, aid, scholarships, etc.

**Systemic Change Outcomes**
Achieved and Sustained Over Time

**Leader Recruitment, Flow, Development**

Elrod, Bauerle and Kezar, in preparation
UNPACKING CHANGE LEADER MOVES: SEVEN IDENTIFIED CATEGORIES

- Create Vision, Expectations and Pacing
- Develop Strategy and Resources
- Communicate Effectively
- Manage People and Teams
- Foster Diversity
- Overcome Challenges and Barriers
- Prepare for Success over the Long-term

Leader development resources, workshops coming soon!

Elrod, Bauerle and Kezar, in preparation
OPPORTUNITIES FOR ASSOCIATIONS AND SOCIETIES

- **What you say and do has an influence!**
  - Networking, partnership and convening opportunities
  - Leadership development programs, seminars, workshops
  - Formation of coalitions, advisory councils, working or other groups
  - Concept papers, reports, articles, frameworks
  - Articulation of expectations and standards in the discipline
  - Funding (internal or grant-generated)
  - Media attention, national awards and recognition
  - Coordination across organizations to advance a common agenda
  - Advocacy